

Work Order ID 110106

110106

Page 1

September-17-13 9:15:09 AM

Item ID: D350-748-201

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Aft Crosstube

Start Date: 12/17/13 Start Qty: 1.00

1

Cust Item ID:

Required Date: 12/17/13 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MLS Date: 13-12-19 Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D350-748-241	G

100	DOCUMENT CONTROL	0.00							
100									
DC	Memo	0.00							
Document Control	Photocopy bluefile & type labels per PPPD350-748-201								

DAS
06
9-09

FEB 12 2015

110	BENDING MACHINE - CROSSTUBES	0.00							
110									

CNC Bend 2	Memo	0.00							
CNC Alpha 160 Bender	Bend tube as per Dwg D350-748-241 using CNC bender program D350A and Folio FT								
	*****UNDER BEND .225" PER SIDE*****								
	USE (4) DT9824 SHIM BLOC TO CHECK STRAIGHTNESS								

JW 14-10-28

Work Order ID 110106

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Page 2

December-17-13 9:15:09 AM

Item ID: D350-748-201

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Aft Crosstube

Start Date: 12/17/13 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 12/17/13 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

120	QC6- Inspect dimensions to drawing	0.00							
120									
QC	Memo	0.00							
Quality Control	***USE (4) DT9824 SHIM BLOC TO CHECK STRAIGHTNESS***								

125		0.00							
125									
Outsource1	Memo	0.00							
Outsource process - Heat Treat	ISSUE P/O TO METCOR: 26285								
	Stress relief								

126	Receive & Inspect for Damage & Mat'l Certs	0.00							
126									
Packaging	Memo	0.00							
Packaging									

Verify cross tube
dimension DAS
9
9-88

14-10-28

14/10/28 ①

IX 8014-10-30

Work Order ID 110106

110106

Page 3

December-17-13 9:15:09 AM

Item ID: D350-748-201

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Aft Crosstube

Start Date: 12/17/13 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 12/17/13 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

127 QC15- Crosstube Dimensional Check 0.00

127

QC

Memo

0.00

Quality Control

MARK CUT LINES

DAS
03
9-89

14-10-31

128

0.00

128

Crosstubes

Memo

0.00

Crosstubes

CUT TUBE AT HEIGHT ON FAI SHEET

SA - 40.74
SB - 41.0

VERF HEIGHT 31.35 BY QC 15 LEVEL INSPECTOR

VERF TWIST 0.00 BY QC15 LEVEL INSPECTOR

DAS
03
9-89

14-11-3

open
PTO

Work Order ID 110106***110106***

Page 4

December-17-13 9:15:09 AM

Item ID: D350-748-201

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Aft Crosstube

Start Date: 12/17/13 Start Qty: 1.00

1

Cust Item ID:

Required Date: 12/17/13 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130

0.00

130

Crosstubes

Crosstubes

Memo

0.00

Crosstubes

2- Drill Tube as per Dwg D350-748-241 Using DT8876 Drill Jigs,
Set-up drill table as per QSI 010

3 -Deburr

4- Engrave Part # and Batch # as per Dwg D350-748-241

5-Remove all marks from tube within limits of D350-748-241

140

QC6- Inspect dimensions to drawing

0.00

140

QC

Memo

0.00

Quality Control

DAS
38
9-89

NOV 21 2014

Work Order ID 110106

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Page 5

December-17-13 9:15:09 AM

Item ID: D350-748-201

Accept

N19000040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Aft Crosstube

Start Date: 12/17/13 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 12/17/13 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

150

Outsource process-Cadplate per QSI017 4.1.9.1

0.00

150

Outsource3

Memo

0.00

Outsource process - Cad plate

Issue P/O: 26611
Stress relief at 375° for 5 hours
Magnetic Particle Inspect per ASTM E1444
Cadium Plate per AMS-QQ-P-416B, Class 1, Type 2
Embrittle relief at 375° for 8 hours, Chromate Treat
Possible Supplier: Southwest United Industries
Ensure Certificate of Conformity is attached

CD 14/11/25 @

160

Receive & Inspect for Damage & Mat'l Certs

0.00

160

Packaging

Memo

0.00

Packaging

Ensure certificate of conformity is attached

IX Sp 15-01-27

170

QC5- Inspect part completeness to step on W/O

0.00

170

QC

Memo

0.00

Quality Control

① 150125 DAS
9
9-89

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110106

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December-17-13 9:15:09 AM

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Setup Start

NS1

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NS2

Item Name: Aft Crosstube

Start Date: 12/17/13 Start Qty: 1.00

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Required Date: 12/17/13 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

174 Outsource process - NDT per QSI038 4.1 0.00

174

Outsource2

Memo

0.00

Outsource process - NDT

ISSUE P/O TO ACCUREN: 27247

CA 15/01/29 ①

176 Receive & Inspect for Damage & Mat'l Certs 0.00

176

Packaging

Memo

0.00

Packaging

1X SP 15-01-29

178 QC5- Inspect part completeness to step on W/O 0.00

178

QC

Memo

0.00

Quality Control

1

DAS
38
9-89

JAN 30 2015

Work Order ID 110106

110106

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December-17-13 9:15:09 AM

Item ID: D350-748-201

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Aft Crosstube

Start Date: 12/17/13 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 12/17/13 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Spray Paint	0.00				1			DAS 41 9-89
180	SprayPaint	0.00							15-2-3
Spray Painting	USE Axalta D99 Imron 3.5 H. G7 02-00 1-Prime inside crosstube as per QSI 005 4.2 BATCH: 129807 2-Paint Outside of Tube as per Dart QSI 005 4.2 BATCH: 121233								
190	QC14- Inspect Spray Paint	0.00				1			DAS 38 9-89
190	QC	0.00							15-0
Quality Control	Memo Then,Wrap in plastic bag to protect from scratches								

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Item ID: D350-748-201

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Aft Crosstube

Start Date: 12/17/13 Start Qty: 1.00

1

Cust Item ID:

Required Date: 12/17/13 Req'd Qty: 1.00

1

Customer:

Reference:

Run Start

NR1

Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop

NR2

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

220

Pick Kit

0.00

220

Packaging

Memo

0.00

Packaging

1X

DAS
26
9-89

FEB 11 2015

DAS
46
9-89

230

QC4- 100% Inspect kits for completeness

0.00

230

QC

Memo

0.00

Quality Control

DAS
06
9-89
FEB 11 2015

240

Packaging

0.00

240

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPPD350-748-201

Location: 035
PPP Rev:

FEB 12 2015

DAS
06
9-89

DAS
46
9-89

Work Order ID 110106***110106***

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Item ID: D350-748-201

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Aft Crosstube

Start Date: 12/17/13 Start Qty: 1.00

1

Cust Item ID:

Required Date: 12/17/13 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

250

QC21- Final Inspection - Work Order Release

0.00

250

QC

Memo

0.00

Quality Control

MCS 15-02-12
my

15-2-12

Picklist Print

December-17-13 9:15:08 AM

Page 1

Work Order ID: 110106
Parent Item: D350-748-201
Parent Item Name: Aft Crosstube

Start Date: 12/17/13 Required Date: 12/17/13
Start Qty: 1.00 Required Qty: 1.00

Comments: IPP Rev: A New Issue 06-07-05 JLM
IPP Rev: B Update qty of MS21042L5 06-09-12 KJ
IPP Rev C Combined manufacturing 08.04.02 EC verified by: DD
IPP Rev:D 08-06-24 revD as per dwg DD verified by:EC
IPP Rev: E 08.12.11 Step17 was step 21 KJ Verified by:EC IPP Rev:F 10.08.04 added QSI010
4.3 DD verf:EC IPP REV:G ADD UNDER BEND COMMENT 12-05-28 JLM IPP
REV:H 12.11.05 as per dwg D350-748-141G DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
ALS4-1032-225 Rivnut		Purchased	No			200	Each	848.0000	1	1		DAS 41 9-89	15-2-4
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				FG		30							
				M127028		30							
				ST280		129							
				M125954		20							
				M127028		109							
				st555		689							
				M127092		689							
AN4-41A Bolt		Purchased	No			220	Each	674.0000	8	8		DAS 26 9-89	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST359		1							
				123346		1							
				ST515		2							
				121185		2							
				ST517		671							
				124241		171							
				124805		315							
				124836		185							

DAS
06
9-89

3x m130726

DAS FEB 11 2015
46
9-89

5x

Picklist Print

December-17-13 9:15:08 AM

Page 2

Work Order ID: 110106

Parent Item: D350-748-201

Parent Item Name: Aft Crosstube

Start Date: 12/17/13

Required Date: 12/17/13

Start Qty: 1.00

Required Qty: 1.00

AN4-6A Purchased No 220 Each 1,235.0000 16 16
BOLT

DAS
86
9-89

Location	Loc Qty	Loc Code
ST355	282	
123355	30	
M126175	2	
M127410	250	
ST514	953	
M126317	953	

DAS
46
9-89

AN5-32A Purchased No 220 Each 267.0000 4 4
Bolt

DAS
86
9-89

Location	Loc Qty	Loc Code
st503	267	
124215	218	
124805	5	
m127363	14	
m127550	30	

3 x m128634
1 x m130716

DAS
46
9-89

DAS
28
9-89

D3500-1 Manufactured No 220 Each 97.0000 4 4
Saddle

DAS
86
9-89

Location	Loc Qty	Loc Code
ST428A	12	
95810	12	
ST430A	66	
108799	40	
91888	8	
94620	18	
ST431	19	
95381	19	

m119473 FEB 11 2015

DAS
46
9-89

Picklist Print

December-17-13 9:15:08 AM

Page 3

Work Order ID: 110106
Parent Item: D350-748-201
Parent Item Name: Aft Crosstube

Start Date: 12/17/13

Required Date: 12/17/13

Start Qty: 1.00

Required Qty: 1.00

D3501-1
Bushing

Manufactured No

220 Each 485.0000

16

16

312050 DAS
9-89

DAS
C8
9-89

Location

Loc Qty

Loc Code

ST043	160	
86913	160	
ST051	2	
103038	2	
ST052	323	
104369	80	
105395	90	
105576	40	
88532	1	
95165	112	

DAS

46

9-89

FEB 11 2015

D3502-1
Support

Manufactured No

200 Each 79.0000

2

2

DAS

41

9-89

15-2-7

121096

Location

Loc Qty

Loc Code

LG050	79	
104334	6	
73419	3	
74873	1	
86876	1	
88465	24	
94722	20	
97212	12	
99764	12	

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Shop Packet Print

Page 3

Picklist Print

December-17-13 9:15:08 AM

Page 4

Work Order ID: 110106
Parent Item: D350-748-201
Parent Item Name: Aft Crosstube

Start Date: 12/17/13

Required Date: 12/17/13

Start Qty: 1.00

Required Qty: 1.00

D350-748-241TRN
Crosstube Turning Detail

Manufactured

No

8124758

110

Each

10.0000

1

1

Location

Loc Qty

Loc Code

LG014

10

103241

1

105672

1

105674

1

105675

1

105677

1

79392

1

86988

1

89962

1

97874

1

97879

1

JW 14-10-28

D3595-063-395
Rubber Cushion

Manufactured

No

115027

200

Each

130.0000

2

2

DAS

41

9-88

15-2-7

Location

Loc Qty

Loc Code

FG

5

87353

5

LG051

125

100373

7

102441

6

102890

3

105542

14

108010

36

109481

20

87353

17

94602

1

97526

17

98361

4

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Shop Packet Print

Page 4

Picklist Print

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Work Order ID: 110106
Parent Item: D350-748-201
Parent Item Name: Aft Crosstube

Start Date: 12/17/13

Required Date: 12/17/13

Start Qty: 1.00

Required Qty: 1.00

MS21042L4

Locknut

Purchased

No

220

Each

4,214.0000

24

24

Location

Loc Qty

Loc Code

FP001

38

122452

38

GA

30

m126333

30

ST314

9

m125708

9

st507

33

m126073

33

ST509

2008

m126275

114

m127255

1894

ST510a

85

m126333

85

ST518

2011

124231

154

m127376

1857

DAS
66
9-89

m130799

DAS
46
9-89

MS21042L5

Nut

Purchased

No

220

Each

840.0000

4

4

Location

Loc Qty

Loc Code

GA

5

117611

5

ST314

335

125535

335

ST509

500

m127304

500

DAS
66
9-89

m131340

DAS
46
9-89

DAS
26
1-89

FEB 11 2015

Picklist Print

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Work Order ID: 110106
Parent Item: D350-748-201
Parent Item Name: Aft Crosstube

Start Date: 12/17/13

Required Date: 12/17/13

Start Qty: 1.00

Required Qty: 1.00

MS21920-22
Clamp

Purchased No

200 Each 103.0000

2

2

DAS
41
9.89

15-2-7

Location

Loc Qty

Loc Code

LG050

103

125487

5

M126420

4

M126637

4

M127255

40

M127608

50

MS27039-1-10
SCREW

Purchased No

200 Each 382.0000

1

1

DAS
41
9.89

15-2-4

Location

Loc Qty

Loc Code

GA

100

120449

100

ST305

26

122815

1

123522

18

125654

7

ST506

256

124326

10

m126474

246

NAS1149D0363J
Washer

Purchased No

200 Each 4,179.0000

1

1

DAS
41
9.89

15-2-4

Location

Loc Qty

Loc Code

GA

89

124392

89

ST294

11

113068

11

ST510a

4079

m126319

4079

Picklist Print

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Work Order ID: 110106
Parent Item: D350-748-201
Parent Item Name: Aft Crosstube

Start Date: 12/17/13

Required Date: 12/17/13

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0463J

WASHER

Purchased

No

220

Each

5,122.0000

32

32

M130799 DAS 26 9-89

Location

Loc Qty

Loc Code

ST294

143

119097

1

121912

24

124198

35

124778

83

ST510a

4979

M126221

22

M127693

4957

DAS
06
9-89

DAS
46
9-89

NAS1149D0563J

Washer

Purchased

No

220

Each

4,123.0000

8

8

M130799 DAS 26 9-89

Location

Loc Qty

Loc Code

GA

35

m125807

35

ST294

145

122452

91

123248

42

123355

12

ST510a

3943

m126319

3943

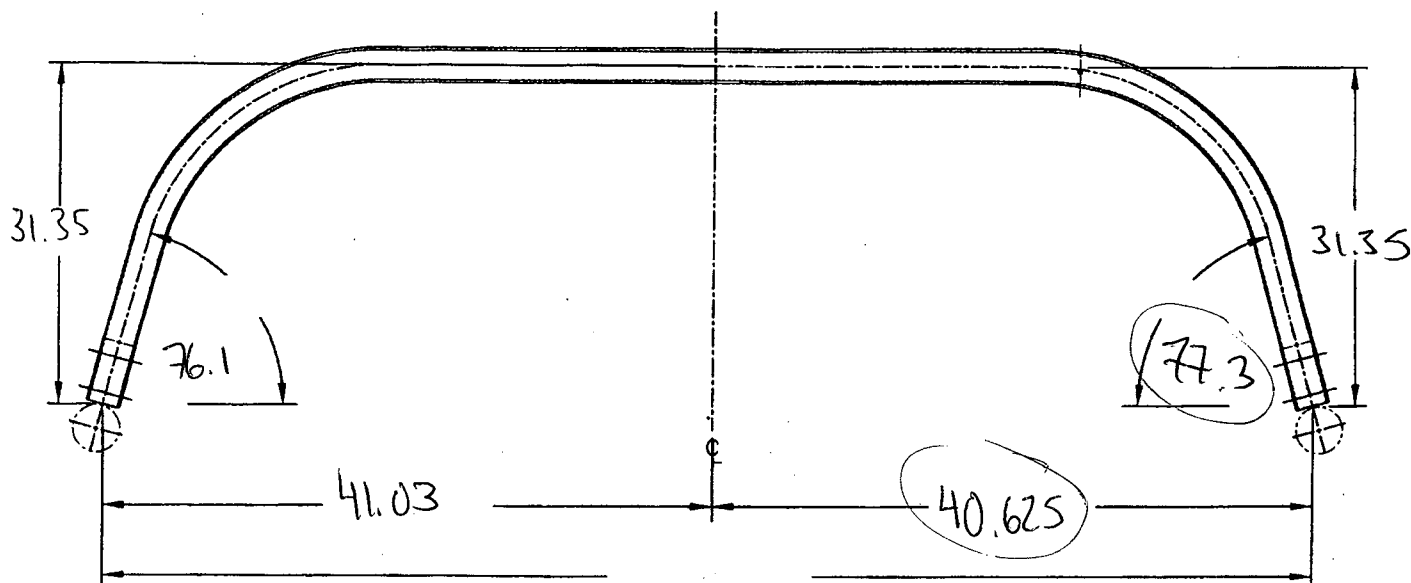
DAS
06
9-89

FEB 11 2015

DAS
46
9-89

DART AEROSPACE LTD	Work Order: 110106
Description: Crosstube High Aft (AS350/355)	Part Number: D350-748-201
Inspection Dwg: D350-748-241 Rev: G	Page 1 of 1

Required Dimension	Min	Max
Height	31.22	31.48
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.54	82.06
Bending Passes	7	--
Crushing	--	6% 7%
Twist	--	0.25



	Side A	Side B
Bending Passes	39	42
Crushing	6.2%	6.2%
Comments	Cut at 31.50, narrow height = 40.72	

QC15 Inspection	14-10-31
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	10.08.23	Dwg Rev updated	KJ	
C	12.04.16	Added bending, crushing & twist dimensions	KJ	
D	12.07.31	Dwg Rev updated	KJ	
E	13.02.27	Dwg Rev updated	KJ	

Item	Qty -241	Part Number	Description
1	X	D350-748-241	CROSSTUBE ASSEMBLY (AS 350/355 HI AFT)
2	1	D6015-125	CROSSTUBE (OR D6018-125)
3	2	D3502-1	SUPPORT
4	2	D3595-063-395	RUBBER CUSHION
5	1	AELS-1032-225	INSERT
6	1	NAS1149D0363J	WASHER (OR AN960JD10)
7	2	MS21920-22 OR MS21920-21	CLAMP (PER DART SPEC. M-MS21920-21/-22)
8	1	MS27039-1-10	SCREW
9	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6015-125 OR D6018-125
FINISHED LENGTH AFTER TURNING = 124.70 ± 0.06 (AFTER BENDING/TRIMMING = 122.70 REF)
- 2) FINISH: MAGNETIC PARTICLE INSPECT PER DART QSI 038 4.2
CADMIUM PLATE PER AMS-QQ-P-416B, CLASS 1, TYPE II
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCE: PER DART QSI 018 UNLESS OTHERWISE NOTED.
WALL THICKNESS ECCENTRICITY PER DART QSI 038 7.2
MIN. ALLOWABLE WALL IS -0.020 FROM NOMINAL
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: DART PART NUMBER "D350-748-241" AND BATCH NUMBER ON INSIDE OF CUFF
PER DART QSI 044 6.4 (VIBRATING STYLUS)
- 7) WEIGHT: 29.85 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE, EXCEPT FOR Ø0.297 HOLE.
- 9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO CRACKING/CHIPPING/GROOVES.

TURNING

- 10) BLEND OUT ALL EDGES FROM MACHINING LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH. NOTE: ALL HOLES ARE DRILLED AFTER BENDING.
- 11) HEAT TREAT TO MIN. 180 KSI PER MIL-T-6736 OR AMS2759/1E AFTER TURNING. ACCEPTABLE TO VERIFY TENSILE STRENGTH BY HARDNESS TEST PER ASTM E18 TO 40-45 HRC.

BENDING

- 12) ALL DIMENSIONS FOR BENT TUBE ARE POST STRESS RELIEF
- 13) BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES PER SIDE. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D. ON TOP HALF OF BEND, AND 7% ON BOTTOM HALF OF BEND.
- 14) MAX AMPLITUDE OF RIPPING ALONG BENT PORTION OF THE TUBE IS 0.030 (ZN A1-3)
- 15) AFTER BENDING, STRESS RELIEVE TUBE AT $650^{\circ}\text{F} \pm 0.25^{\circ}\text{F}$ FOR A MINIMUM OF 2 HRS AND ALLOW TO COOL TO AMBIENT TEMPERATURE (REF AMS2759/1E).
- 16) MAX TWIST AFTER STRESS RELIEF: WITH XTUBE LAYED FLAT ON SURFACE, THE DIFFERENCE BETWEEN CUFF HEIGHTS FROM THE SURFACE MAY BE NO LARGER THAN 0.38 (ZN C1-3).

ASSEMBLY

- 17) TO INSTALL D3502-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.02" TO 0.05" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 18) TORQUE CLAMPS 60 TO 80 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

110106 MCT
13-12-19

RELEASE
2012-11-01

G	RMV ABRASION STRIP, SUPPORT NOW W/ PROSEAL & CUSHION, ADD STRESS RELIEF, LONGER CUFF, NOW TRIM'D AFTER BEND, ADD WALL DIMS & UPDATE TOL.	CP	12.09.12
F	ADD HRC TEST OPTION (B8-1) PER PAR 09-040, ADD TWIST LIMIT (A8-1, C1-3), ADD D6015-125 OPTION (C8-1), STOCK DIM NOW MACHINED (D1-4)	CP	10.11.23
E	REVISE GENERAL NOTES; UPDATE TO CURRENT STANDARDS; RELOCATED FLAG #6 PER PAR 09-046 (ZN A8-3); ADD TOLERANCES (ZN C8-3, D2-3)	RF	09.09.30
D	MAG. PARTICLE AND CAD PLATE AS MFD.	CP	06.10.31
C	ADD CAD PLATING	CP	06.08.14
B	ADD D6018-125 & PRIME AND PAINT	CP	06.06.30
A	NEW ISSUE	CP	06.03.31
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	12.09.12		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D350-748-241 SHEET 1 OF 4 TITLE CROSSTUBE (AS 350/355 HI AFT) SCALE NTS REV. G COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

8 7 6 5 4 3 2 1

D

C

B

A

D

C

B

A

17 18
D3502-1 SUPPORT
MS21920-22 CLAMP (OR -21)
D3595-063-395 RUBBER CUSHION
2 PL



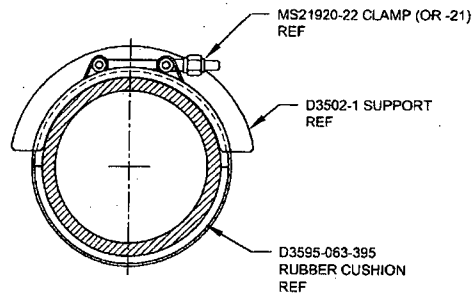
A7-2
A
A

14.37

D350-748-241
BENT TUBE

INSTALL THIS SIDE ONLY, AFTER FINISH:
AELS-1032-225 INSERT
NAS1149D0363J WASHER
MS27039-1-10 SCREW

**D350-748-241
ASSEMBLY DETAIL**

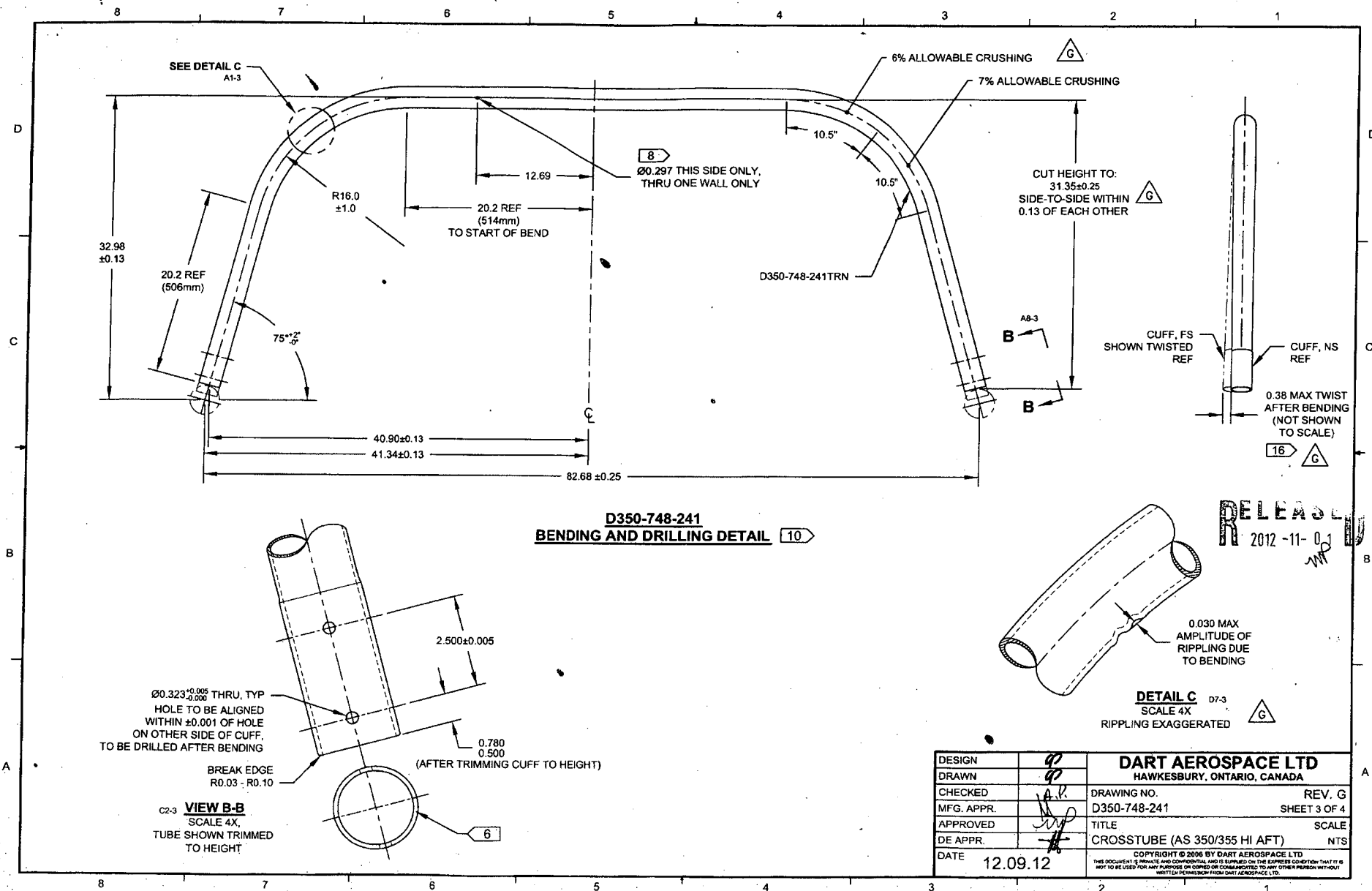


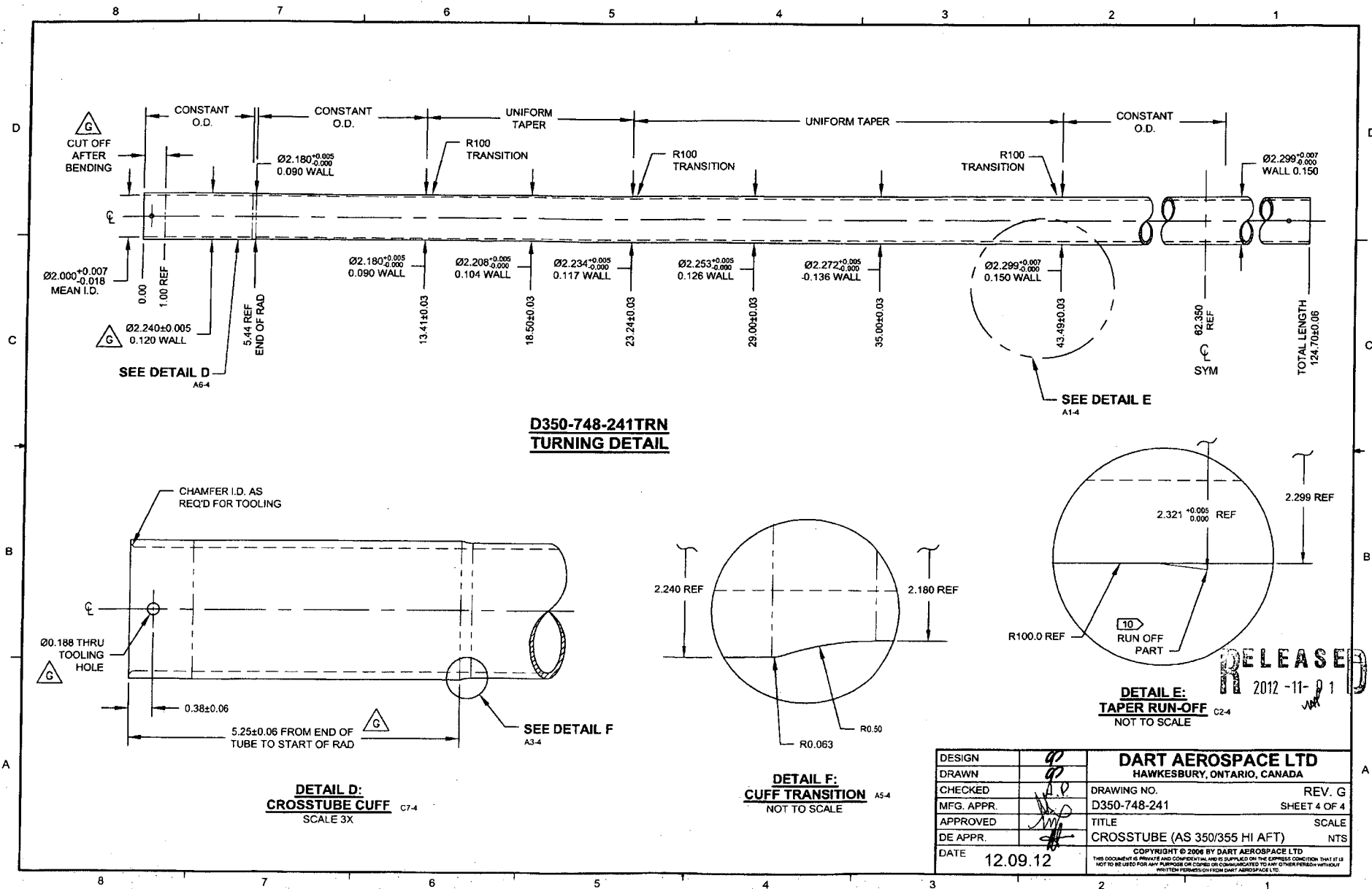
SECTION A-A D4-2
SCALE 6X

RELEASED
2012-11-01

DESIGN		DART AEROSPACE LTD
DRAWN		HAWKESBURY, ONTARIO, CANADA
CHECKED		DRAWING NO. REV. G
MFG. APPR.		D350-748-241 SHEET 2 OF 4
APPROVED		TITLE SCALE
DE APPR.		CROSSTUBE (AS 350/355 HI AFT) NTS
DATE	12.09.12	COPYRIGHT © 2006 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		

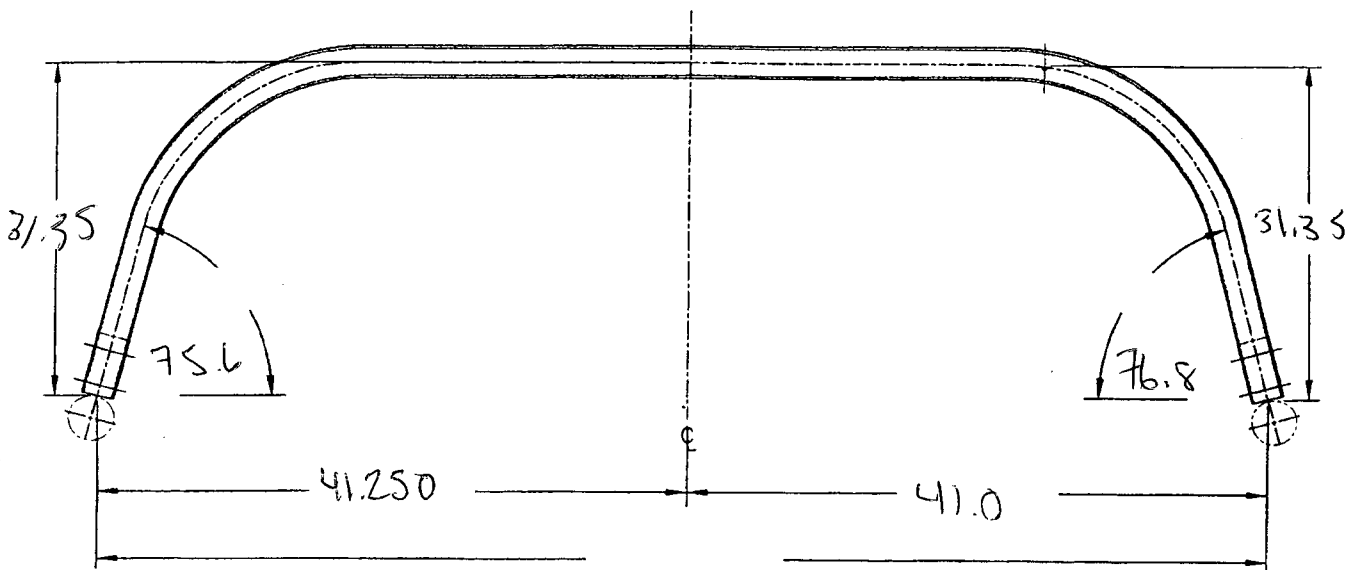
8 7 6 5 4 3 2 1





DART AEROSPACE LTD		Work Order:	
Description: Crosstube High Aft (AS350/355)		Part Number:	D350-748-201
Inspection Dwg: D350-748-241 Rev: G			Page 1 of 1

Required Dimension	Min	Max
Height	31.22	31.48
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.54	82.06
Bending Passes	7	--
Crushing	--	7%
Twist	--	0.38



	Side A	Side B
Bending Passes	39	42
Crushing		
Comments		
twist = 0.046"		

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	10.08.23	Dwg Rev updated	KJ	
C	12.04.16	Added bending, crushing & twist dimensions	KJ	
D	12.07.31	Dwg Rev updated	KJ	
E	13.02.27	Dwg Rev updated	KJ	
F	14.02.13	Crushing & twist dimensions revised	KJ	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO26285**

Purchase Order Date 10/28/2014

PO Print Date 10/28/2014

Page Number 1 of 3

Order From :

METCOR INC.
560 BOUL. ARTHUR SAUVE
SAINT-EUSTACHE, QC J7R 5A8
CA

VC-MET004

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

PAID

Contact Name

Vendor Phone 450 473 1884

Ship To Contact

Ship To Phone

Ship Via: Dart Truck

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extend Pri
Line Comments			Promise Date				
Delivery Comments							

1	110106	D350-748-201 CROSSTUBE	10/29/2014	1.00	\$253.75	\$253.
			Yes			
			10/29/2014	SP14-10-30		
HEAT TREAT CROSSTUBE AS PER QSI010 4.3 WITHIN 12H AFTER BENDING						

SP14-10-30

Line Total: \$253.

2	113062	D350-748-201 CROSSTUBE	10/29/2014	1.00	\$253.75	\$253.
			Yes			
			10/29/2014			
HEAT TREAT CROSSTUBE AS PER QSI010 4.3 WITHIN 12H AFTER BENDING						

Line Total: \$253.

Note:

10/28/2014

METCOR INC.

500 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Rapport d'Inspection**Inspection Report**

BON DE TRAVAIL order	CHARGEMENT load
200054	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K8A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K8A 1K7

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
26285		Steel		

SPÉCIFICATIONS DU PROCÉDÉ

processing specifications

STRESS REL

SAE AMS 2750/1 REV.E

EXIGENCE / requirement SPÉCIFICATIONS / specified TESTS EXÉCUTÉS / performed RÉSULTATS DE TESTS / results
Visual

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
4	120	D350-748-201 ✓ (1) D350-748-201 CROSSTUBE 110106 (1) D350-748-201 113062 (1) D350-748-201 113063 (1) D350-748-201 113067 1 NIL

SP14-10-30

29 out

COMMENTAIRES / comments

APPROUVÉ par / Approved by:

[Signature]

DATE: 2014-10-29

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Recu de livraison

Delivery Receipt

BON DE TRAVAIL Order	EXPÉDITEUR Shipper ID	BON D'EXPÉDITION Shipper
200054	1	85693

EXPÉDITION COMPLÈTE / Shipped Complete

CLIENT /Customer 215

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053



LIVRÉ À /Shipped To

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

COMMANDE DU CLIENT Customer PO	BON DE LIVRAISON DU CLIENT Customer Shipper No.	TYPE DE MATÉRIEL Material Type	DATE DE LA COMMANDE Order Date	TRANSPORTEUR Carrier
26285		Steel	2014/10/28	client

QUANTITÉ Quantity	No. PIÈCE / Part No.	NOM DE LA PIÈCE / Part Name	DESCRIPTION DE LA PIÈCE Part Description	POIDS Weight
----------------------	-------------------------	--------------------------------	---	-----------------

4 D350-748-201 120,
(1) D350-748-201
CROSSTUBE
110106
(1) D350-748-201 113062
(1) D350-748-201 113063
(1) D350-748-201 113067

2014-10-30

1 NIL

TYPE DE CONTENEUR Container Type	# DE CONTENEURS # Of Containers	COMMENTAIRES CONTENEUR Container Comments
NIL	1	

CERTIFICAT

EMPAQUETAGE Packing	
------------------------	--

QUANTITÉ EXPÉDIÉE / Quantity Shipped : 4
POIDS EXPÉDIÉ / Weight Shipped : 120,00
QUANTITÉ RESTANTE / Quantity Remaining : 0
POIDS RESTANT / Weight Remaining : 0,00

CERTIFICAT

QUANTITÉ EXPÉDIÉE /Quantity Shipped:	4
POIDS EXPÉDIÉ / Weight Shipped :	120,00

Signature:

Date:

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGÈMENT load
200054	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
26285		Steel		
SPÉCIFICATIONS DU PROCÉDÉ processing specifications				
STRESS REL				
SAE AMS 2759/1 REV.E				
EXIGENCE / requirement SPÉCIFICATIONS / specified TESTS EXÉCUTÉS / performed RÉSULTATS DE TESTS / results				
Visual				
QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description		
4	120	D350-748-201 (1) D350-748-201 CROSSTUBE 110106 (1) D350-748-201 113062 (1) D350-748-201 113063 (1) D350-748-201 113067 1 NIL		

COMMENTAIRES / comments

STRESS RELIEF 343C, 2 HRS

Le traitement thermique (TT) a été fait en utilisant des équipements en conformité avec AMS2759.

Le TT a été fait tel que requis par AMS2759 et toutes les vérifications et les tests demandés ont été faites et documentés. Aucun changement n'a été faite par rapport au TT. On certifie que le matériel a été fabriqué, échantillonné, testé et inspecté en accord avec AMS2759 et le bon de commande et le matériel rencontre les exigences spécifiées.

Heat treatment (HT) was performed with equipment that meets the requirements of AMS2759.

All HT operations were in compliance with AMS2759 and all verifications have been performed and documented. No unauthorized changes were performed in regards to the HT. We certify that the material was manufactured, sampled, tested and inspected in accordance with AMS2759 and the purchase order and was found to meet the requirements.

Isabel Otero
QA Technician



OCT 29 2014

DQA:

Date: 15/03/18



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: 15/03/18

Work Order update only ☐

Work Order: 110106	DISPOSITION		AGAINST DEPARTMENT/PROCESS			
Part No. D350-748-201	Rework ☒	Skid-tube ☐	Crosstube ☒	Water Jet ☐	Engineering ☐	
NCR No. 15-4648	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	
	Suspected Unapproved ☐	Large Fab ☐	Composite ☐	Supplier ☐		

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	14/10/30	110	1	One width is narrow. One angle over tolerance RC. Benji Prouss	DAS 12 9-89 14/10/30	Cut at 31.55" high. width = 40.72 Acceptable.	JW 14-10-31	JW 14-11-3	 14-11-3 DAS 03 9-89
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process ☒									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General		
☒ Bending	☐ Bend	☐ Folio/Program	☐ Outside Dimensions
☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance
☐ Cracks	☐ Broken/Damage/Defect	☐ Hardware	☐ Part Incorrect
☐ Crimp/Kink/Ripple/Wave	☐ Burrs	☐ Inspection Incomplete/Unqualified	☐ Part Lost/Missing
☐ Cuffs	☐ Contamination	☐ Instructions Incomplete/Unclear	☐ Part Moved
☐ Crushing	☐ Countersink	☐ Misaligned/off center	☐ Positioned Wrong
☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Power Loss/Surge
☐ Inspection Strip in Tube	☐ Drawing	☐ Misread	☐ Pressure/Forced
☐ Marks/Chatter	☐ Drill Holes	☐ Off-set	☐ Set-up
☐ Turning Sequence	☐ Finish	☐ Out of Calibration	☐ Temperature/Cure
☐ Wave/Twist in Tube	☐ Fit/Function	☐ Out of Sequence	☐ Weld
			☐ Wrong Stock Pulled
			☐ Other



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO26611**

Purchase Order Date 11/25/2014

PO Print Date 11/25/2014

Page Number 3 of 5

Order From :

VC-CAD002

ADORATH COATING
2150 LOGAN AVE.
WINNIPEG, MB R2R 0J2
CAN

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 204 633 9420

Ship To Contact

Ship To Phone

Ship Via: Day & Ross collect

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Terms Net 30

Currency CAD

FOB Destination-Collect

FINISH	D350-748-101 CROSSTUBE	12/19/2014	1.00	\$803.42	\$803.42
--------	---------------------------	------------	------	----------	----------

Yes

12/19/2014

FINISH SAME AS ABOVE

Line Total: \$803.42

FINISH	D350-748-201 CROSSTUBE	12/19/2014	1.00	\$803.42	\$803.42
--------	---------------------------	------------	------	----------	----------

Yes

12/19/2014

FINISH SAME AS ABOVE

Line Total: \$803.42

FINISH	D350-748-201 CROSSTUBE	12/19/2014	1.00	\$803.42	\$803.42
--------	---------------------------	------------	------	----------	----------

Yes

12/19/2014

FINISH SAME AS ABOVE

Line Total: \$803.42

Note:

11/25/2014

Packing Slip



Cadorath Coating

2150 Logan Avenue, Winnipeg, Manitoba R2R-0J2

Phone: (204) 633-9420 Fax: (204) 633-8033

INVOICE NUMBER:

S 74804

Sold To:

Dart Aerospace Ltd.

1270 Aberdeen St.

Hawkesbury, ON K6A 1K7

ShipTo:

Net 2% Interest Per Month charged on Overdue Accounts.

Any claims for shortages, overcharges, or damaged goods must be made within seven (7) days from receipt of goods.

Customer Order #:	Date Received:	Terms:	G.S.T. #:	Ship Via:	Ship Date:
PO26611	Dec-31-2014	NET 30 DAYS	10071 6547 RT0001		Jan-22-2015

Item #	Qty	P/N & Description	
1	1 EA	CROSSTUBE	S/N 110171
		P/N d350-748-101	W/O 142527
2	1 EA	CROSSTUBE	S/N 110172
		P/N d350-748-101	W/O 142528
3	1 EA	CROSSTUBE	S/N 113097
		P/N d350-748-101	W/O 142529
4	1 EA	CROSSTUBE	S/N 113098
		P/N d350-748-101	W/O 142530
5	1 EA	CROSSTUBE	S/N 113062
		P/N D350-748-201	W/O 142531
6	1 EA	CROSSTUBE	S/N 113063
		P/N D350-748-201	W/O 142532
7	1 EA	CROSSTUBE	S/N 113067
		P/N D350-748-201	W/O 142533
8	1 EA	CROSSTUBE	S/N 110106
		P/N D350-748-201	W/O 142534
9	1 EA	CROSSTUBE	S/N 110108
		P/N D350-748-201	W/O 142535
10	1 EA	CROSSTUBE	S/N 121505
		P/N D350-748-101	W/O 142536
11	1 EA	CROSSTUBE	S/N 122288
		P/N D350-748-101	W/O 142537

SP15-01-27

**CERTIFICATE OF
CONFORMANCE**

**CADORATH PLATING CO. LTD.
2150 LOGAN AVENUE
WINNIPEG, MANITOBA R2J-0J1**

DATE: Jan-22-2015

CONSIGNED TO: Dart Aerospace Ltd.
1270 Aberdeen St.
Hawksbury, ON K6A 1K7

W/O #: 142534

INVOICE #: 74804

**CONTRACT OR
PURCHASE ORDER #** PO26611

DESCRIPTION: CROSSTUBE

QTY 1

P/N # D350-748-201

S/N # 110106

STRESS RELIEF BAKE HEAT CHART # 14-1216.MPI IAW ASTM-E-1444. CADMIUM PLATE IAW AMS-QQ-P-416C TYPE 2 YELLOW CLASS 1. FINAL MPI IAW ASTM-E-1444. EMBRITTLE RELIEF BAKE HEAT CHART # 15-38.

SP15-01-27

CERTIFICATE: I certify that the items indicated here on have been inspected and tested and conform to all specifications and requirements detailed on the contract or purchase order.

Approved Inspector:





Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO27244

Purchase Order Date 1/28/2015

PO Print Date 1/29/2015

Page Number 5 of 7

Order From :
SKYSERVICE
6120 MIDFIELD ROAD
MISSISSAUGA, ONTARIO L5P 1B1
CANADA

VC-SKY001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 905-678-5636

Ship To Contact
Ship To Phone
Ship Via: Delivered
Ship Acct:

Buyer
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FCA - (Free Carrier)

12	113067	D350-748-201 CROSSTUBE	1/29/2015	1.00	\$0.00	\$0.00
			Yes 1/29/2015			

SAME AS ABOVE

Line Total: \$0.00

13	110106	D350-748-201 CROSSTUBE	1/29/2015	1.00 ✓	\$0.00	\$0.00
			Yes 1/29/2015			

SAME AS ABOVE

SP15-01-29

Line Total: \$0.00

14	110108	D350-748-201 CROSSTUBE	1/29/2015	1.00	\$0.00	\$0.00
			Yes 1/29/2015			

SAME AS ABOVE

Line Total: \$0.00

Note:

1/29/2015

**skyservice****Work Order Traveler**

Sky Service F.B.O. Inc.

DOT APP 53-89 / EASA 145.7142 / BDA AMO 585

WO #: MWO21993	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO: 27244
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN: 0	CSN: 0	TSO: 0	
Task: UNSCHEDULED			Sequence: 1

Work Required:

CARRY OUT NDT ON THE FOLLOWING FWD CROSSMEMBERS
ID # D350-748-101
WORK ORDER ID'S # 110172, 110171, 113092, 113098, 121505

CARRY OUT NDT ON THE FOLLOWING AFT CROSSMEMBERS
ID # D350-748-201
WORK ORDER ID'S # 113063, 113062, 113062, **110106**, 110108

Action Taken:	Date:	Initial/Stamp:
LIQUID PENETRANT INSPECTION CARRIED OUT ON ITEMS LISTED ABOVE IN ACCORDANCE WITH ASTM E-1417M-13 ANY SUSPECT INDICATIONS VERIFIED BY EDDY CURRENT.	JAN 27 2015	
JAS 38 9-89		
JAN 30 2015		

Description	Location	P/N	Qty	Batch	S/N Off	S/N On
LPI - APPROX		970825E				
BLACK LIGHT		S/N: M-20142				
EDDY CURRENT		NORTEC 500,5				
		S/N: M20323 CAL. 11/NOV/2015				

SP 15-01-29

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	ACA/SCA Stamp 	Date: JAN 27 2015
Name: RAFIK MELIKIAN		



Imron® 3.5 HG + High Gloss Polyurethane Topcoat (RH Quality)



GENERAL

DESCRIPTION

A high gloss 3.5 lbs/gal VOC conforming, low HAPS, polyurethane topcoat based upon unique Axalta formulations and resin technology. The resulting finish product provides a brush, roll or sprayable topcoat designed for use in any environment where long term color and gloss retention are desired.

SUGGESTED USES

As a high performance topcoat over suitable primers or properly prepared steel, galvanized steel, stainless steel, aluminum, concrete, concrete block, fiberglass, plastics and wood where:

- Long term color retention is desired
- Long term gloss retention is desired
- Compliance with 3.5 lbs VOC regulations is desired
- Use in corrosive or industrial marine environments is needed
- Application by brush, roll or spray is desired
- Excellent chemical resistance is desired
- Outstanding flexibility is needed
- Faster dry times are desired

COMPATIBILITY WITH OTHER COATINGS

- Aged Imron 3.5 HG + may be re-coated with itself following washing with clean, fresh water – no mechanical surface preparation is required.
- Imron 3.5 HG + can be applied over other Axalta coatings including, but not limited to Imron Industrial Strength primers and other Imron primers, Imron waterborne polyurethane copolymer coatings, Corlar® epoxies, Tufcote® acrylics, and Tufcote alkyd primers.
- Imron 3.5 HG + may be used over most aged and hard-cured coatings in good condition. Testing for lifting, bubbling and adhesion is recommended to assure compatibility with unknown coatings. Contact your Axalta representative for specific recommendations.

NOT RECOMMENDED FOR

Immersion service or floors

PERFORMANCE PROPERTIES

Abrasion & Mechanical	Excellent
Alkalis	Excellent
Humidity	Excellent
Solvents	Excellent
Color & Gloss Retention	Excellent
Acids	Excellent
Salts	Excellent
Weather	Excellent

The products referenced herein may not be sold in your market. Please consult your distributor for product availability.

COLOR

Imron 3.5 HG + consists of a mixing system utilizing 19 tints and 1 binder (3500P™) to specific mixing formulas. Select high-volume factory package colors are also available. Thousands of custom colors can be mixed.